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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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| 09/002,007 | 12/31/97 | HUNG | J 015290-238 |

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EXAMINER

VINH, L

| ART UNIT | PAPER NUMBER |
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1765

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DATE MAILED:

03/19/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Advisory Action

Application No.

09/002,007

Examiner

LAN VINH

Applicant(s)

HUNG ET AL.

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 08 March 2001 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check only a) or b)]

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
- b) ☒ In view of the early submission of the proposed reply (within two months as set forth in MPEP § 706.07 (f)), the period for reply expires on the mailing date of this Advisory Action, OR continues to run from the mailing date of the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will be entered upon the timely submission of a Notice of Appeal and Appeal Brief with requisite fees.
3. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search. (see NOTE below);
 - (b) ☐ they raise the issue of new matter. (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____.

4. ☐ Applicant's reply has overcome the following rejection(s): _____.
5. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
6. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See attachment.
7. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
8. ☒ For purposes of Appeal, the status of the claim(s) is as follows (see attached written explanation, if any):
- Claim(s) allowed: None;
- Claim(s) objected to: _____.
- Claim(s) rejected: 1-13 and 16-22.
- Claim(s) withdrawn from consideration: _____.
9. ☐ The proposed drawing correction filed on _____ a) ☐ has b) ☐ has not been approved by the Examiner.
10. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
11. ☒ Other: Attachment

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Response to Arguments

1. Applicant's arguments filed on 3/8/2001 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, since Abraham discloses that the etching chemistry of CHF_4 , Chlorine and Ar used to etch an inorganic ARC may also be performed on any metallization –overlying layer and it is well known in the art that the ARC layers (organic or inorganic) are conventionally formed above a metal layer. Therefore, it would have been obvious to have employed Abraham's etching chemistry to etch Tsai's organic ARC layer.

It is argued that the combination of Abraham and Tsai proposed in the office action changes the principle of operation of the invention of Abraham which is to improve etch rate selectivity of the ARC to the overlying photoresist because Tsai's organic ARC (polyimide) is a polymer-based composition like Abraham's photoresist. The examiner disagrees because a polymer-based composition does not necessarily have to be polyimide. Furthermore, since it is well known in the art that etch rate selectivity is

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achieved by etching different materials, the examiner maintains that the combination of Abraham and Tsai does not change the principle of operation of Abraham.


It is also argued that Tsai teaches away from the proposed combination by using a different etch chemistry for etching an organic ARC layer than that employed by Abraham for etching a TiN ARC. The examiner disagrees because although Tsai discloses an etchant gas composition comprising carbon tetrafluoride and argon, the term "comprising" indicates that additional gas can be added to Tsai etchant gas composition. The examiner asserts that Tsai does not teach away from the proposed combination.

Conclusion

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAN VINH whose telephone number is 703 305-6302. The examiner can normally be reached on Monday-Friday 8:30 -6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BENJAMIN L UTECH can be reached on 703 308-3836. The fax phone numbers for the organization where this application or proceeding is assigned are 703 305-3599 for regular communications and 703 305-3599 for After Final communications.

LV
March 16, 2001


BENJAMIN L. UTECH
SUPERVISORY PATENT EXAMINER
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